UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SK

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/950,445	10/15/97	KEJHA J	BK 6

PM82/0712

JOSEPH B KEJHA
1022 FREDERICK RD
MEADOWBROOK PA 19046

EXAMINER	
VANAMAN, F	
ART UNIT	**PAPER NUMBER**
3611	7

DATE MAILED: 07/12/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/950,445	Applicant(s) Kejha
	Examiner Frank Vanaman	Group Art Unit 3611

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-34* is/are pending in the application.

Of the above, claim(s) *1-9, 13-33 and 34 as dependent from claims 4 and 5* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *10-12 and 34 as dependent on claims 10, 11 and 12* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on *Oct 15, 1997* is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☒ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *2*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Election/Restriction

1. Applicant's election without traverse of Invention II, defined by claims 10-12, in Paper No. 6 is acknowledged.

The examiner notes that claim 34 has been written to be dependent on any one of claims 4, 5, 10, 11 or 12, as such claim 34, as dependent upon claims 10-12 will be treated along with claims 10, 11, and 12; claims 1-9, 13-33 and claim 34 as dependent upon claims 4 and 5 are withdrawn from consideration as being drawn to non-elected inventions. An Office action on the elected claims follows.

Claim Reference Terminology

2. As claim 34 is dependent upon multiple claims, it may become necessary to refer to claim 34 separately as based upon different independent claims. For example claim 34 dependent upon claim 10 would be referred to as '34/10' for the purpose of this office action.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

(a) It does not refer to the continuation-in-part status of the application as set forth on the first page of the specification.

(b) It does not state that the person making the oath or declaration in a continuation-in-part application filed under the conditions specified in 35 U.S.C. 120 which discloses and claims subject matter in addition to that disclosed in the prior copending application, acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

(c) It does not identify the city and state or foreign country of residence of each inventor.

As regards the residence and post office addresses, the residence address should include the city and state of the inventor's residence; while the post office address should be a complete address at which the inventor may receive mail through the US Postal system. Since the Declaration contains what appears to be a complete postal address proximate the 'residence' section of the Declaration, it has been assumed that this is the inventor's post office address.

Drawings

4. The drawings are objected to because figure 1 lacks a lead line from reference numeral 200 to the appropriate drawing element (a copper disc clutch, as described on page 19 of the specification); in figure 7, elements 43, 44, 45 and 46, described as relays in the specification, appear to have been illustrated as enclosures having capacitors and a coil, rather than switch contacts and a coil. Correction is required.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 10, 11 and 12 refer to the engine as an 'open to air' engine (claim 10, lines 8-9, claim 11, line 8, claim 12, line 7) yet the specification merely refers to the engine as being a combustion engine.

6. The disclosure is objected to because it is replete with grammatical informalities, some of which are noted below: on page 4, line 8, applicant refers to a difference, but fails to set forth to what the comparison is made (i.e., between what elements is the difference being described?); on page 4, line 10, "frame" should be --frames--; on page 5, line 1, "have also" should be --also have--; on page 5, line 2, --the-- should be inserted between "of" and "batteries"; on page 5, line 4, "batteries" should be --batteries'--; on page 5, line 15, "is consuming" should be deleted and --

consumes-- inserted in its place; on page 6, line 1, the term "highly energized" is not entirely clear; on page 26, line 14, "potenciometer" should be ---potentiometer--.

The *entire* specification should be carefully reviewed and revised to correct grammatical errors.

Appropriate correction is required.

Claim Objections

7. Claims 10-12 are objected to because of the following informalities: in claims 10 and 11, on line 7 (both claims), "is riding" should be --rides-- for grammatical formality; in claim 10, line 8 the period should be deleted as the only period in a claim should be at the end thereof; in claim 12, line 6, between "cell" and "by" it appears as though one or more words are missing (for example, --which generates hydrogen--). Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 10, 11, 12, 34/10, 34/11, and 34/12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 10, line 9, claim 11, line 9 and claim 12 line 8, the recitation refers to the engine as being fueled "only" by hydrogen, whereas the drawings clearly show the fuel inputs to the engine as being hydrogen and oxygen (fig. 6, for example) as is described in the specification on page 23, lines 4-11, for example. In claim 11, lines 12-13, the reference to the hydrogen as being not stored under pressure is not supported by the specification,

note for example page 21, lines 14-16 and page 23, lines 19-23, further if no pressure is applied to the hydrogen, it is not clear how the gas can be moved from the tank or the generator to the combustion chamber of the engine.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 10-12 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Throughout the claims, the term "said hydrogen" lacks clear antecedent basis (claim 10, line 9, claim 11, lines 9 and 12, claim 12 lines 8-9), note that the recitation of a hydrogen storing or generating apparatus, while providing antecedent basis for the apparatus does not provide a clear antecedent for the hydrogen itself.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over West (US 3,517,766) in view of Laumann et al. (cited by applicant), and Thompson et al. (US 3,554,311). West teaches a vehicle having a body (1) an internal combustion engine (14) which is not sealed from the atmosphere, a pair of generators (16, 17) driven by the engine, a battery (10) connected to the generators and motor (11), the electric motor (11) connected to both the battery and

generators, the motor for driving the vehicle, wherein the vehicle is further provided with a steering system (6, 7).

The reference of West fails to teach the internal combustion engine as being powered by hydrogen obtained through the electrolysis of water wherein the electrolysis element is further connected to the battery and generator. Laumann et al. teach a hydrogen fuel system for an internal combustion engine (24) which in turn drives a generator (22) wherein hydrogen gas is provided as the primary fuel (as opposed to a supplement to an existing petroleum fuel source) for the engine from an electrolysis device (26) fed from a water supply (27) and from an electric energy source (12). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the conventional internal combustion engine taught by West with the hydrogen fueled engine and hydrogen supply source taught by Laumann et al. for the purpose of greatly reducing the exhaust emissions from the vehicle even while the engine is operating.

The references of West and Laumann et al. fail to explicitly teach the electric supply of the electrolysis device to be connected to both the generator and battery. In view of the provision of both a battery and generators on the vehicle of West, and the interconnections between both the battery and the generators and the motor of West, it would have been obvious to one of ordinary skill in the art at the time of the invention to connect both the generators and the battery of West to be operative to supply electric energy to the electrolysis device for the purpose of insuring the production of hydrogen fuel may be accomplished either while the engine is operating (i.e., through current supplied from at least one generator) or when the vehicle is stopped (i.e., through current supplied from the battery).

The reference of West as modified by Laumann et al. fails to teach the system as being applicable to a vehicle which rides on two wheels. Thompson et al. teach a two wheeled vehicle (wheels 4, 6) having a steering system (10, 12, 14) and a plurality of batteries (42, 44) for driving an electric drive motor (46). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vehicle hydrogen/oxygen fuel source, engine, generators, and

drive motors of West as modified by Laumann et al. in a two-wheeled configuration as taught by Thompson et al. for the purpose of providing a resulting small electric-powered recreational vehicle which does not require connection to an outside power source for the replenishment of its batteries, facilitating a greater vehicle range.

14. Claim 34/10 is rejected under 35 U.S.C. 103(a) as being unpatentable over West in view of Laumann et al. and Thompson as applied to claim 11 above, and further in view of Sun et al. (US 5,359,308). The reference of West as modified by Laumann et al. and Thompson fails to teach a clutch associated with the generator. Sun et al. teach a hybrid vehicle having an internal combustion engine (10) as well as a pair of electrical machines which may operate as generators (16, 34), each of which is provided with a clutch (30, 32) for mechanical isolation from the driving system. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a clutch as taught by Sun et al. as a mechanical isolating device between the engine and generators of West as modified by Laumann et al., Munday and Thompson et al. for the purpose of reducing drag on the engine when the generators are not in use.

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over West (US 3,517,766) in view of Laumann et al. (cited by applicant), Munday (US 5,143,025) and Thompson et al. (US 3,554,311). West teaches a vehicle having a body, an internal combustion engine which is not sealed from the atmosphere, a pair of generators driven by the engine, a battery connected to the generators and motor, the electric motor connected to both the battery and generators, the motor for driving the vehicle, wherein the vehicle is further provided with a steering system.

The reference of West fails to teach the internal combustion engine as being powered by hydrogen obtained through the electrolysis of water wherein the electrolysis element is further connected to the battery and generator. Laumann et al. teach a hydrogen fuel system for an

internal combustion engine which in turn drives a generator wherein hydrogen gas is provided as the primary fuel (as opposed to a supplement to an existing petroleum fuel source) for the engine from an electrolysis device fed from a water supply and from an electric energy source. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the conventional internal combustion engine taught by West with the hydrogen fueled engine and hydrogen supply source taught by Laumann et al. for the purpose of greatly reducing the exhaust emissions from the vehicle even while the engine is operating.

The references of West and Laumann et al. fail to explicitly teach the electric supply of the electrolysis device to be connected to both the generator and battery. In view of the provision of both a battery and generators on the vehicle of West, and the interconnections between both the battery and the generators and the motor of West, it would have been obvious to one of ordinary skill in the art at the time of the invention to connect both the generators and the battery of West to be operative to supply electric energy to the electrolysis device for the purpose of insuring the production of hydrogen fuel may be accomplished either while the engine is operating (i.e., through current supplied from at least one generator) or when the vehicle is stopped (i.e., through current supplied from the battery).

The reference of West as modified by Laumann et al. fails to teach the production of hydrogen on demand, the hydrogen not being stored. Munday teaches a hydrogen generating system for an engine (10) wherein an electrolysis apparatus (10) is employed to generate hydrogen and oxygen gases (in 36, 40) on demand to power the engine in response to the operation of a control pedal (figures 12-18, col. 5, line 59 to col. 7, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the electrolysis device and storage system taught by the modifying reference of Laumann et al. as applied to the West reference with an on-demand hydrogen and oxygen generating device as taught by Munday for the purpose of eliminating any hazards associated with the storage of hydrogen and oxygen gases.

The reference of West as modified by Laumann et al. and Munday fails to teach the system as being applicable to a vehicle which rides on two wheels. Thompson et al. teach a two wheeled vehicle having a steering system and a plurality of batteries for driving an electric drive motor. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vehicle hydrogen/oxygen fuel source, engine, generators, and drive motors of West as modified by Laumann et al. and Munday in a two-wheeled configuration as taught by Thompson et al. for the purpose of providing a resulting small electric-powered recreational vehicle which does not require connection to an outside power source for the replenishment of its batteries, facilitating a greater vehicle range.

16. Claim 34/11 is rejected under 35 U.S.C. 103(a) as being unpatentable over West in view of Laumann et al., Munday and Thompson as applied to claim 11 above, and further in view of Sun et al. (US 5,359,308). The reference of West as modified by Laumann et al., Munday and Thompson fails to teach a clutch associated with the generator. Sun et al. teach a hybrid vehicle having an internal combustion engine as well as a pair of electrical machines which may operate as generators, each of which is provided with a clutch for mechanical isolation from the driving system. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a clutch as taught by Sun et al. as a mechanical isolating device between the engine and generators of West as modified by Laumann et al., Munday and Thompson et al. for the purpose of reducing drag on the engine when the generators are not in use.

17. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over West (US 3,517,766) in view of Laumann et al. (cited by applicant). West teaches a vehicle having a body, an internal combustion engine which is not sealed from the atmosphere, a pair of generators driven by the engine, a battery connected to the generators and motor, the electric motor

connected to both the battery and generators, the motor for driving the vehicle, wherein the vehicle is further provided with a steering system.

The reference of West fails to teach the internal combustion engine as being powered by hydrogen obtained through the electrolysis of water wherein the electrolysis element is further connected to the battery and generator. Laumann et al. teach a hydrogen fuel system for an internal combustion engine which in turn drives a generator wherein hydrogen gas is provided as primary fuel (as opposed to a supplement to an existing petroleum fuel source) for the engine from an electrolysis device fed from a water supply and from an electric energy source. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the conventional internal combustion engine taught by West with the hydrogen fueled engine and hydrogen supply source taught by Laumann et al. for the purpose of greatly reducing the exhaust emissions from the vehicle even while the engine is operating.

The references of West and Laumann et al. fail to explicitly teach the electric supply of the electrolysis device to be connected to both the generator and battery. In view of the provision of both a battery and generators on the vehicle of West, and the interconnections between both the battery and the generators and the motor of West, it would have been obvious to one of ordinary skill in the art at the time of the invention to connect both the generators and the battery of West to be operative to supply electric energy to the electrolysis device for the purpose of insuring the production of hydrogen fuel may be accomplished either while the engine is operating (i.e., through current supplied from at least one generator) or when the vehicle is stopped (i.e., through current supplied from the battery).

18. Claim 34/12 is rejected under 35 U.S.C. 103(a) as being unpatentable over West in view of Laumann as applied to claim 12 above, and further in view of Sun et al. (US 5,359,308). The references of West and Laumann et al. are discussed above and fail to teach a clutch associated with the generator. Sun et al. teach a hybrid vehicle having an internal combustion engine as well

as a pair of electrical machines which may operate as generators, each of which is provided with a clutch for mechanical isolation from the driving system. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a clutch as taught by Sun et al. as a mechanical isolating device between the engine and generators of West as modified by Laumann for the purpose of reducing drag on the engine when the generators are not in use.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Adams (US 4,094,374), Olivera (US 4,528,947), Meyer (US 5,293,857), Goodwin (US 5,361,863), Ogawa et al. (US 5,421,427), Wright, Jr. (US 5,524,726), Ibaraki et al. (US 5,635,805), Takahashi (JP 5-105145 and JP 6-135370) teach vehicles and fuel systems of pertinence.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Vanaman whose telephone number is (703) 308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:
Assistant Commissioner for Patents
Washington, DC 20231
or faxed to :
(703) 305-3597 or 305-7687 (for formal communications intended for entry; informal or draft communications may be faxed to the same number but should be clearly labeled "UNOFFICIAL" or "DRAFT")

FRANK B. VANAMAN
Patent Examiner
Art Unit 3611

July 7, 1999

7/7/99